Investigating the 2010 Undercount of Young Children – A New Look at 2010 Census Omissions by Age

A New Design for the 21st Century

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1. INTRODUCTION

The Census Bureau has a long history of measuring net coverage error to assess the overall quality of its censuses. The Census Coverage Measurement (CCM) program and Demographic Analysis (DA) both provide estimates of net coverage error. For nearly all uses of census data those net coverage error measures are sufficient. Information about gross errors such as omissions, duplications, and fabrications as well as information on whole-person imputations provide an important supplement to net errors. Measuring the components that make up net coverage allows us to better understand the processes that lead to coverage shortcomings. Census planners can use these components to identify needs for methodological changes in future censuses.

Analysis has shown that the net undercount rate for young children (aged 0 to 4) is higher than for other ages.[1] We can use information about gross errors and whole-person imputations to help understand the possible causes. Specifically, we are interested in assessing if the high net undercount rate for young children might be because of a higher omission rate for young children (gross undercoverage) or whether it might be the result of a lower rate of erroneous enumerations (gross overcoverage) and/or a lower rate of imputed young children. The analysis in this report seeks to harness the unique strengths of both DA and the CCM to address this issue.

2. BACKGROUND

The strength of DA, especially for the youngest population, is its ability to measure the true population and estimate the net undercount. DA estimated a net undercount in the 2010 Census of about 4.6 percent for children aged 0 to 4 (Hogan et al., 2013, Table 2). DA estimates for young children are largely based on birth records, which have been consistently shown to be accurate and complete. Its weakness is that it only estimates the net undercount, and tells us nothing about gross errors.

One strength of coverage surveys such as the CCM lies in the ability to measure correct enumerations and gross errors, especially the level of duplication and fabrication in the census. One weakness of coverage surveys is that these surveys can miss the same types of people as missed by the census, resulting in an underestimate of the net error (i.e., correlation bias)[2]. In contrast with the DA net coverage estimate of 4.6 percent, the CCM's estimate of net undercoverage for this population group in 2010 was less than 1 percent (U.S. Census Bureau 2012a). Correlation bias does not affect the measurement of gross errors, which the CCM estimates via the "E sample."

Accepting the true population and net undercount as estimated by DA and the correct enumerations and gross erroneous inclusions as estimated by the CCM allows us to estimate gross omissions. We are particularly interested in gross omissions of young children and how they compare with gross omissions of people of other age groups.

[1] See for example Mule (2012), Hogan et al (2013), O'Hare (2015). For earlier results, see West and Robinson (1999).

[2] Studies such as the CCM are subject to other errors that might affect the estimates for children and comparisons of children's rates with rates for other ages.

The analysis is based on the following relationships. Note that these relations hold even if different systems measure the components (e.g. the census, Demographic Analysis, and the CCM E Sample.)

Census Count = Correct Enumerations + Erroneous Enumerations + Whole-Person Imputations
Net Undercount = True Population - Census Count
Gross Omissions = True Population - Correct Enumerations

Thus, Gross Omissions = Net Undercount + Erroneous Enumerations + Whole-Person Imputations

The 2010 CCM program produced estimates of components of census coverage for the household population in the United States. U.S. Census Bureau (2012a) documents components of census coverage for the total population and for selected age, sex, race, and Hispanic-origin groups including estimates of:

- Correct enumerations,
- Erroneous enumerations because of duplication,
- Other erroneous enumerations (fictitious, out-of-scope, died before census day, born after census day).
- Whole-person imputations, and
- Omissions.

CCM derived the previously published estimates of omissions by subtracting the estimated correct enumerations from the CCM's Dual System Estimate of the total population. This project replaces the CCM-based estimate of total population with DA-based estimates and recalculates omissions by age using these alternative benchmarks. As previously mentioned, we believe the DA population estimates to be quite accurate for young children while the CCM population estimates for young children may suffer from correlation bias. Therefore, we believe the alternative estimates of census omissions calculated in this report to be more accurate for young children. For older ages, there is more uncertainty in the DA estimates, especially in the components of international migration. When there are differences in the DA and CCM population estimates for older ages, there is not a clear understanding as to which estimate is closer to the truth.

3. RESEARCH QUESTIONS

This report answers the following research questions.

1. How do the new estimates of census omissions vary across age groups? Do young children have a higher rate of omissions than older children and adults?
2. How do the rates of census whole-person imputations vary across age groups? Do young children have low rates of whole-person imputations?
3. How do the rates of census erroneous enumerations vary across age groups? Do young children have low rates of erroneous enumerations?
4. When we combine census erroneous enumerations and census whole-person imputations, how do the rates compare with the new omission rates across age groups?

4. METHODOLOGY

4.1 Data Sources

We used the 2010 CCM results to estimate correct enumerations, erroneous enumerations, and whole-person imputations. The CCM report on components of census coverage (U.S. Census Bureau (2012a) includes nine age/sex groupings (see Table 4 of that document). The report displays correct enumerations, erroneous enumerations because of duplication, erroneous enumerations because of other reasons, and whole-person imputations as percentages of the census count. We used the source files for those tables for our calculations. Note that the 2010 CCM estimates exclude people in group quarters and people living in remote Alaska.

The revised 2010 DA middle series estimates (U.S. Census Bureau 2012b) are the source for our DA-based estimates of total population by age and sex.[3] Because these DA estimates include the total population and CCM excludes group quarters and remote Alaska areas, we adjusted the DA estimates by subtracting the census count of the population in each age and sex group living in group quarters and in remote Alaska.

4.2 Definitions and Estimation

CCM classifies every person-record as a correct enumeration, an erroneous enumeration, or a whole-person imputation. An enumeration is correct if the census enumerates the person where the residence rules say the census should count them and the census does not count them more than once. All other enumerations are erroneous. Erroneous enumerations therefore include duplicate enumerations, people who were born after census day or died before census day, and fictitious people. Whole-person imputations are not enumerations. Rather, they are the result of a statistical process designed to account for people the census did not enumerate.

To best identify potential enumeration shortcomings, we chose to use only the correct enumerations when calculating census omissions. This is consistent with the definition used in the CCM to produce their estimates of census omissions. Specifically, we define gross omissions as the difference between the DA-based estimate of total population for a certain age/sex group and the CCM estimate of correct enumerations for that age/sex group. We calculate gross omission rates as the ratio of omissions to the DA-based estimate of total population, converted to a percent.

In our analysis we also look at the rates of erroneous enumerations and whole-person imputations. We define these rates as the ratio of erroneous enumerations (similarly, whole-person imputations) to the total census count, converted to a percent.

To better understand the relation between the omission rates and the rates of net coverage error, we can consider the effect of whole-person imputations. We produced a set of rates that reflect the difference between the DA-adjusted population estimate and the sum of correct enumerations and whole-person imputations. We do not consider these to be a measure of omissions. These rates acknowledge the

[3] Before the census results were known, the Census Bureau produced five series of Demographic Analysis estimates, with none chosen as the "preferred" or "most likely." They differed principally with respect to their assumptions about immigration. Fortunately for our purposes, these series differed only slightly for young children. However, comparisons with older ages would differ if other estimation series had been chosen. Only the "middle series," which most closely agreed with the 2010 Census, was revised.

potential that some whole-person imputations account for some of the omissions. That is, many of the imputed people may have been correct enumerations if the census had been able to collect sufficient characteristics.

4.3 Limitations

All CCM results are sample-based estimates. At the national level, the sampling errors on these components tend to be trivially small, on the order of 0.2 percent or less. We refer the reader to the original document for details. We acknowledge that some level of nonsampling error, including recall error and matching error, exists in the CCM results. These nonsampling errors could result in CCM classification errors of correct versus erroneous enumerations.

To arrive at DA estimates of the household population, we assume perfect coverage of the group quarters population in the census. This is not an issue for young children since few young children reside in group quarters. For adults, a larger share of the population resides in group quarters.

The 2010 CCM program estimated gross omissions based on the CCM's dual system estimate of the total population. This report assumes that DA provides a more accurate estimate of young children than the estimate derived from the CCM. DA may not provide a better estimate than the CCM of the older population groups. We believe that the new DA-based omission estimates result in the best estimate of omissions for young children. We provide the new omission estimates for all age groups and recognize that the CCM estimate of omissions may be as good, or better, for adults.

As noted earlier, there is reason to believe that the CCM estimates of net coverage error for young children may understate the true coverage error because of correlation bias. It is unclear if estimates for other age and sex groups are similarly affected. The 2010 CCM included adjustments for correlation bias for adult men but did not include any other adjustments (see Konicki, 2012). The differences between CCM-based and DA-based population estimates prompt us to believe that the CCM survey undercounts the youngest children to a degree greater than other age and sex groups.

5. RESULTS

5.1 New Estimates of Census Omissions

How do the new estimates of census omissions vary across age groups? Do young children have a higher rate of omissions than older children and adults?

Table 1 summarizes the data used to source Table 4 of U.S. Census Bureau (2012a). It includes the 2010 Census count of the household population broken out into nine age/sex groups. It also includes CCM estimates of correct enumerations, erroneous enumerations – duplicates, other erroneous enumerations, and whole-person imputations for each of these age/sex groups.

Table 1. Selected Components of Census Coverage by Age & Sex – 2010 Census Coverage Measurement

Age & Sex	Census Count (000)	Estimated CEs (000)	Estimated EEs-Duplicates (000)	Estimated Other EEs (000)	Whole-Person Imputations (000)
US Total	**300,703**	**284,668**	**8,521**	**1,520**	**5,993**
0 to 4	20,158	18,955	649	120	433
5 to 9	20,315	19,260	611	35	408
10 to 17	33,430	31,645	1,059	94	632
18 to 29 Males	23,982	22,018	965	294	705
18 to 29 Females	23,912	22,037	1,004	200	671
30 to 49 Males	40,256	38,215	924	226	891
30 to 49 Females	41,815	39,949	887	138	840
50+ Males	44,886	42,860	1,141	217	668
50+ Females	51,950	49,729	1,280	197	744

CE: Correct Enumerations; EE: Erroneous Enumerations

Note: Census Count excludes the population living in group quarters and in remote Alaska

Source: Table 4 - CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf)

Table 2 includes the DA-based population estimates for the same age and sex groups before and after adjustments for group quarters and remote Alaska. The final column is the benchmark for the new omissions estimates.

Table 2. Demographic Analysis Estimates by Age & Sex

Age & Sex	DA-Based Population Estimate (000)	Population Living in Group Quarters & Remote Alaska (000)	Adjusted DA-Based Population Estimate (000)
US Total	**308,346**	**8,042**	**300,304**
0 to 4	21,171	44	21,127
5 to 9	20,804	27	20,777
10 to 17	33,472	202	33,270
18 to 29 Males	26,195	2,294	23,901
18 to 29 Females	25,105	1,554	23,551
30 to 49 Males	42,610	1,383	41,227
30 to 49 Females	41,403	283	41,120
50+ Males	45,686	1,033	44,653
50+ Females	51,901	1,223	50,678

DA: Demographic Analysis

Source: Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)

Table 3 includes revised estimates of census omissions based on the adjusted DA-based population estimates. For each age/sex group, Table 3 displays the estimated number of gross omissions and the percent relative to the adjusted DA-based population estimate. The estimated omission rate for the youngest children is striking at 10.3 percent. The data indicate that a high rate of census omissions contributes to the high net undercoverage of young children.

Table 3. Demographic Analysis-Based Omissions Estimates

Age & Sex	Adjusted DA-Based Population Estimate (000)	CCM-Estimated Correct Enumerations (000)	DA-Based Estimate of Gross Omissions (000)	DA-Based Estimate of Gross Omissions (%)
US Total	**300,304**	**284,668**	**15,636**	**5.2**
0 to 4	21,127	18,955	2,172	10.3
5 to 9	20,777	19,260	1,517	7.3
10 to 17	33,270	31,645	625	4.9
18 to 29 Males	23,901	22,018	1,883	7.9
18 to 29 Females	23,551	22,037	1,514	6.4
30 to 49 Males	41,227	38,215	3,012	7.3
30 to 49 Females	41,120	39,949	1,171	2.8
50+ Males	44,653	42,860	1,793	4.0
50+ Females	50,678	49,729	949	1.9

DA: Demographic Analysis; CCM: Census Coverage Measurement
Source: Table 4 CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf), Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)

Figure 1 compares these new DA-based omission estimates with those calculated from the CCM total population estimate. The new estimate of omissions for the population aged 0 to 4 is greater than the CCM-based omission rate for this age group. We expected this result because the DA-based population estimate for young children is higher than the CCM-based population estimate. For adults, the DA-based population estimates are lower than the CCM-based population estimates. As a consequence, the CCM-based omission estimates for the 18 and older populations are equal or greater than the new DA-based omissions estimates.

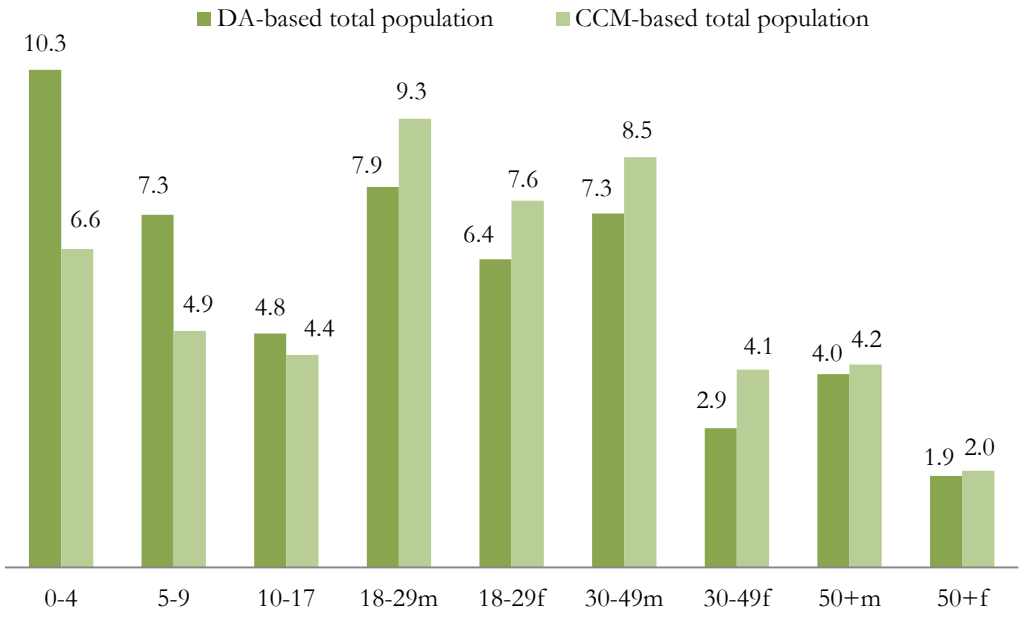

Figure 1. Comparison of Demographic Analysis-Based and Census Coverage Measurement-Based Omission Estimates

DA: Demographic Analysis; CCM: Census Coverage Measurement
Source: Table 4 – CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf), Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)

Given the strength of vital statistics for young children, we believe that these new omission estimates are a more accurate measure of the children omitted from the 2010 Census. The CCM accounted for correlation bias in its estimates for adult males. The CCM did not make any adjustments to its estimates for other age and sex groups. The observations in Figure 1 reflect this difference in estimation methodology and highlight that CCM-based estimates of omissions by age understate the problem for young children.

Figure 2 plots the new estimates of gross omissions against the DA estimates of net coverage error. Negative values indicate net overcoverage. Figure 2 highlights that the net error rate is quite different from the omission rate. Because we define net error as omissions minus erroneous enumerations and whole-person imputations, the difference between the two bars in Figure 2 depict the contributions of erroneous enumerations and whole-person imputations for each age group. Smaller differences between the combined levels of erroneous enumerations and whole-person imputations relative to omissions cause the lower net error rates for people aged 18-29. For the youngest children, where we see the highest omission rate, the combined number of whole-person imputations and erroneous enumerations isn't high enough to bring the net error rate to a level similar to the other age groups.

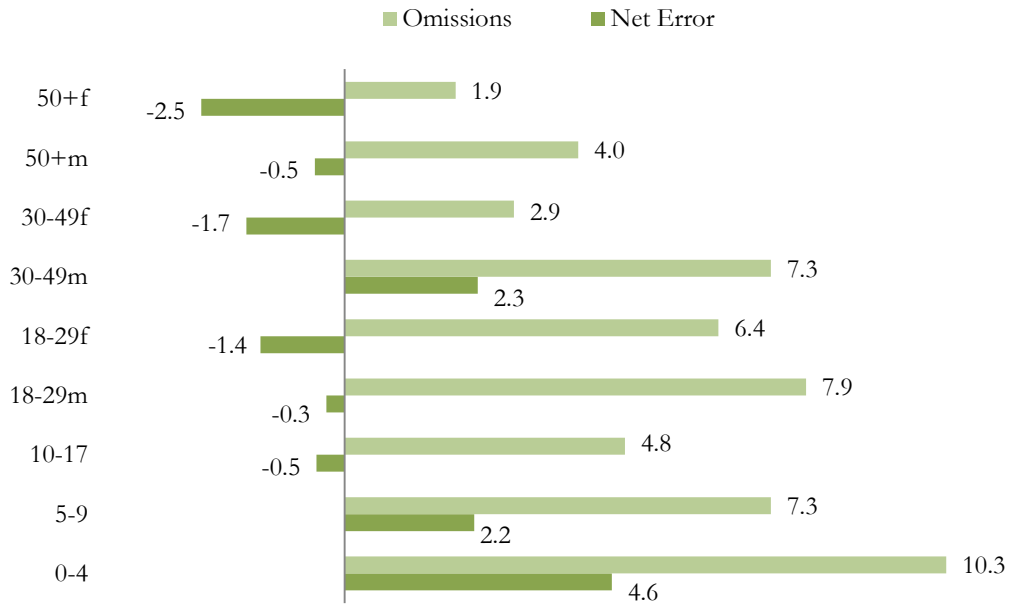

Figure 2. Comparison of Demographic Analysis-Based Estimates of Omissions and Net Coverage Error

Source: Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)

5.2 Analysis of Whole-Person Imputations

How do the rates of census whole-person imputations vary across age groups? Do young children have low rates of whole-person imputations?

The Census Bureau uses imputation methodologies to account for the people who live in households that fail to respond to the census. There were two forms of whole-person imputation in the 2010 Census - whole-person imputation as part of a whole-household imputation and whole-person imputation within a household.

The 2010 Census included almost 6 million whole-person imputations. Table 4 summarizes the whole-person imputations by type. Most of these whole-person imputations (4.8 million) were "count known" households, when an enumerator confirmed that the housing unit was occupied and obtained the household size. For the vast majority of these cases, household size was the only information collected and the census imputed the characteristics of all household members. Additional whole-person imputations occurred for a subset of household members in a household with a known population count. Such partial household imputations might result from a lost continuation form or when a large household was not resolved in Coverage Followup. The level of partial household imputations was quite small in 2010; only about 220,000 people or roughly 0.1 percent of the total population. The CCM cannot determine if whole-person imputations are correct or erroneous.

Almost 1.2 million whole-person imputations occurred in "count imputation" households when an enumerator could not determine the household size. For all of these cases, the census imputed a household size. Enumerators were able to confirm the occupancy status for most of the cases that resulted in count imputations (870,000 of the imputed 1,160,000 people were in housing units that an enumerator classified as occupied). However, in some instances the enumerator could not verify the status of the unit (i.e., determine if it was a valid unit) and in other instances they could not determine if the unit was occupied or vacant. The census imputed an additional 290,000 people into units imputed to be occupied units.

Table 4. Whole-Person Imputations by Type – 2010 Census

Type of Imputation	Count (000)	Percent of Total Population	Percent of Total Imputations
Total Whole-Person Imputations	**5,993**	**2.0**	**100.0**
Count Imputation	**1,163**	**0.4**	**19.4**
Status, occupancy status and household size imputed	240	0.1	4.0
Occupancy status and household size imputed	54	0.0	0.8
Household size imputed	869	0.3	14.5
Count Known	**4,830**	**1.6**	**80.6**
Whole household imputed	4,607	1.5	77.0
Partial household imputed	223	0.1	3.7

Source: Table 6 - Mule (2012)

In all of these whole-person imputations, the census imputes a full set of characteristics, including age. Note that whole-person imputation does not include enumerated people requiring imputation at the item level. When a census enumeration lacks a response to a certain question (e.g., age), edit and imputation

methods supply an age value. These imputations are not included in the counts of whole-person imputations in Table 4.

Whole-person imputation accounts for nonresponse in the census. Some, but not all, census omissions exist because of nonresponse. The census may miss a specific young child but count, via imputation, a child of the same age. The CCM would not tabulate this as a correct enumeration; rather, the missed child would be an omission and the imputed child, a whole-person imputation. It is important to recognize, however, that census omissions exist for reasons other than nonresponse. The Census Bureau designed the count imputation process to account for nonresponse at the unit level and not to address these other reasons for omissions, including rostering errors by respondents, frame errors during address listing activities, and misclassification errors by enumerators. If all census omissions had a corresponding whole-person imputation with the same demographic characteristics in the same geographic area, the net error rate would be minimal. For this reason it is important for us to look at omissions and whole-person imputations.

Based on DA estimates of the population and CCM estimates of correct enumerations, we estimate that the census omitted 15.6 million people (Table 3). The 2010 Census included about 6 million whole-person imputations (Table 4). Table 5 displays the counts and rates of whole-person imputations across age and sex groups. At 2.1 percent, the rate of whole-person imputations for young children is consistent with the rates for many other age and sex groups. These results do not indicate that the youngest children had low rates of whole-person imputation.

Table 5. Comparison of Rates of Whole-Person Imputations by Age and Sex

Age & Sex	Whole-Person Imputations (000)	Whole-Person Imputations (%)	Difference between DA-Based Population and Sum of CEs & WPIs (000)	Difference between DA-Based Population and Sum of CEs & WPIs (%)
US Total	**5,993**	**2.0**	**9,644**	**3.2**
0 to 4	433	2.1	1,739	8.2
5 to 9	408	2.0	1,109	5.3
10 to 17	632	1.9	993	3.0
18 to 29 Males	705	2.9	1,178	4.9
18 to 29 Females	671	2.8	843	3.6
30 to 49 Males	891	2.2	2,121	5.1
30 to 49 Females	840	2.0	331	0.8
50+ Males	668	1.5	1,125	2.5
50+ Females	744	1.4	205	0.4

DA: Demographic Analysis; CEs: Correct Enumerations; WPIs: Whole-Person Imputations

Source: Table 4 – CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf), Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)

Table 5 also includes estimates of the difference between the DA-based population totals and the sum of correct enumerations and whole-person imputations. The combination of correct enumerations and whole-person imputations is, in a sense, an upper bound on potential correct enumerations. Subtracting these from the DA-based total is an estimate of the people omitted from the census that were not accounted for by imputation. The final column shows that even when whole-person imputations are considered, the youngest children fall short.

5.3 Analysis of Erroneous Enumerations

How do the rates of census erroneous enumerations vary across age groups? Do young children have low rates of erroneous enumerations?

In a similar analysis, Table 6 summarizes the erroneous enumeration (EE) rates for each age and sex group. The 2010 Census included over 10 million erroneous enumerations. About 3.3 percent of the people enumerated in the 2010 Census were either a duplicate enumeration or another erroneous enumeration, such as a fabrication. We see some variation in the EE rates across age and sex groups but we do not observe an unreasonably low rate for the youngest children. In fact, the 3.8 percent EE rate for children under the age of 5 is higher than the rate for many age and sex groups.

Table 6 also displays the new DA-based omission estimates for comparison. When we think about net coverage error, we find that some EEs may take the place of an omission. In the case of "apartment mix ups," if, within a housing unit, the households duplicated were as likely to include young children as the households omitted, the errors should tend to offset in the aggregate. On the other hand, duplicate enumeration of college students at home cannot offset omissions of young children. So with respect to census duplication, we should expect some, but not a complete, offset. It is possible that erroneous enumeration of some children born after census day or the duplication of young children living in joint custody might off-set some young children omitted in error from census rosters, at least at the national level. However, this phenomenon tends to be quite small.

Table 6. Comparison of Erroneous Enumeration Rates by Age and Sex

Age & Sex	CCM Estimate of Total Erroneous Enumerations (000)	CCM Estimate of Total Erroneous Enumerations (%)	DA-Based Estimate of Gross Omissions (000)	DA-Based Estimate of Gross Omissions (%)
US Total	**10,041**	**3.3**	**15,636**	**5.2**
0 to 4	769	3.8	2,172	10.3
5 to 9	646	3.2	1,517	7.3
10 to 17	1,153	3.4	625	4.9
18 to 29 Males	1,259	5.2	1,883	7.9
18 to 29 Females	1,204	5.0	1,514	6.4
30 to 49 Males	1,150	2.9	3,012	7.3
30 to 49 Females	1,025	2.5	1,171	2.8
50+ Males	1,358	3.0	1,793	4.0
50+ Females	1,477	2.8	949	1.9

DA: Demographic Analysis; CCM: Census Coverage Measurement

Source: Table 4 – CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf), Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html

5.4 Comparison of Census Omissions with the Combination of Erroneous Enumerations and Whole-Person Imputations

When we combine census erroneous enumerations and census whole-person imputations, how do these rates compare with the new omission rates across age groups?

The two previous sections compared the rates of whole-person imputations and EEs across age and sex groups. The rates for the youngest children were consistent with the rates for most other age and sex groups. Table 7 looks at the new DA-based estimates of gross omissions relative to the combination of

EEs and whole-person imputations by age and sex. It includes an estimate of the difference between the total estimated omissions and the sum of both types of EEs and whole-person imputations. In a sense, this is an estimate of the omissions that the census didn't offset with either an EE or a whole-person imputation.

At the national level we find nearly 400,000 more EEs and whole-person imputations than omissions. This is why DA measures a net overcount of the total population. Only three groups show a negative "balance" of imputations and erroneous enumerations to omissions – children aged 0 to 4, children aged 5 to 9, and males aged 30 to 49. For children under 5, we estimate that, after accounting for EEs and whole-person imputations, nearly 1 million census omissions remained. We see similar, but less dramatic, results for children aged 5 to 9 and males aged 30 to 49. Note that males 30 to 49 have a similar level of 971 remaining omissions, but this age group is four times the size of the 0 to 4 group. This suggests that census duplication, other enumeration errors, and whole-person imputations do not offset the high levels of omissions for young children.

Table 7. Comparison of Omissions and the Sum of Erroneous Enumerations and Whole-Person Imputations by Age & Sex

Age & Sex	DA-Based Estimate of Gross Omissions (000)	Sum of EEs & WPIs (000)	Sum of EEs & WPIs – Omissions (000)
US Total	**15,636**	**16,033**	**-397**
0 to 4	2,172	1,202	970
5 to 9	1,517	1,054	463
10 to 17	625	1,785	-160
18 to 29 Males	1,883	1,964	-81
18 to 29 Females	1,514	1,875	-361
30 to 49 Males	3,012	2,041	971
30 to 49 Females	1,171	1,865	-694
50+ Males	1,793	2,026	-233
50+ Females	949	2,221	-1,272

DA: Demographic Analysis; EEs: Erroneous Enumerations; WPIs: Whole-Person Imputations
Source: Table 4 – CCM Memorandum series #2010-G-04 (http://www.census.gov/coverage_measurement/pdfs/g04.pdf), Revised 2010 DA Estimates (released May 2012) Middle series Tables 3, 4 & 5 (http://www.census.gov/popest/research/demo-analysis.html)
Source: Coverage Follow-up Analysis File – Special Tabulation

6. CONCLUSIONS

The purpose of this investigation was to assess if the net undercount rate for young children might be because of a higher omission rate, a lower erroneous enumeration rate, or a lower imputation rate for young children compared with older children and adults. The new omission estimates indicate that the 2010 Census processes are missing around 10 percent of the youngest children (ages 0-4) and over 7 percent of older children (ages 5-9). The likelihood of the census missing a young child is higher than the likelihood of missing a person in any other age or age/sex group. We conclude that a higher omission rate is a driver for the undercount of young children.

The whole-person imputation rates and the erroneous enumeration rates for young children are consistent with, or greater than, the rates seen for many age groups. We cannot conclude that lower levels of imputation and lower EE rates for young children contribute to this undercoverage of young children. For the youngest children with the highest omission rate, the combined rate of whole-person imputations and

erroneous enumerations is consistent with those for other age groups but insufficient to bring the net error rate to a level similar to the other age groups.

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